

Amendments to the Claims

Claim amendments and status:

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)
7. (new): A particle size distribution measuring apparatus comprising:

a sample cell for receiving a plurality of particles;

a light source section for irradiating a first light having a first wavelength onto the sample cell, and for irradiating a second light having a second wavelength onto the sample cell;

a detector section comprising two or more detectors for measuring the intensity of the first light scattered by one or more particles in the sample cell to generate first light intensity measurements, and for measuring the intensity of the second light scattered by one or more particles in the sample cell to generate second light intensity measurements; and

a processor for receiving the first light intensity measurements and determining a first low sensitivity region for a particle size, and for receiving the second light intensity measurements and determining a second low sensitivity region for a particle size, wherein the processor determines a particle size distribution by combining the first light intensity measurements and the second light intensity measurements such that the first low sensitivity region and the second low sensitivity region are eliminated in the resulting combined data.

8. (new) The apparatus of claim 7, wherein the light source section comprises a first light source for emitting the first wavelength of light and a second light source for emitting the second wavelength of light.

9. (new) The apparatus of claim 7, wherein the first wavelength is at least 1.5 times larger than the second wavelength.

10. (new) The apparatus of claim 7, wherein the light source section further comprises a plurality of light sources and each light source irradiates light at a plurality of different wavelengths.

11. (new) The apparatus as claim 10, wherein the detector section comprises a plurality of detectors and each detector is configured to measure the intensity of a particular wavelength of light transmitted and scattered by the particles in the sample, wherein the particular wavelength of light is emitted from one of the plurality of light sources.

12. (new) The apparatus of claim 7 where the light source section irradiates laser light at a plurality of wavelengths sequentially.

13. (new) The apparatus of claim 7 further comprising a shutter configured to transmit laser light of a selected wavelength and prevent the transmission of laser light at another wavelength.

14. (new) The apparatus of claim 7 further comprising one or more projection lenses for receiving and condensing the light from the light source section.

15. (new) A method for measuring a particle size distribution of a sample cell having a plurality of particles, the method comprising:

irradiating, onto the sample cell, a first light having a first wavelength and a second light having a second wavelength;

detecting the intensity of the first light scattered by one or more particles in the sample cell and generating first light intensity measurements, and detecting the intensity of the second light scattered by one or more particles in the sample cell and generating second light intensity measurements;

sending the first light intensity measurements and the second light intensity measurements to an arithmetic processing unit;

generating a first sensitivity curve from the first light intensity measurements to determine a first low sensitivity region for a particle size, and generating a second sensitivity curve from the second light intensity measurements to determine a second low sensitivity region for a particle size; and

combining the first light intensity measurements with the second light intensity measurements such that the first low sensitivity region and the second low sensitivity region are eliminated in the resulting combined data measurement, thereby providing an accurately determined particle size distribution.